Commonwealth of Kentucky
Division for Air Quality

PERMIT APPLICATION SUMMARY FORM

Completed by: April J. Webb

GENERAL INFORMATION:

Name: Commonwealth Aluminum Lewisport, Incorporated
Address: P. O. Box 480, 1372 State Route 1957, Lewisport, KY 42351-0480
Date application received: February 25, 1997
SIC/Source description: 3355 / Aluminum sheet, plate, foil, rolling drawing
EIS #: 21-091-00010
Application log number: F139 (50143)
Permit number: V-03-049

APPLICATION TYPE/PERMIT ACTIVITY:

[X] Initial issuance
[ ] Permit modification
__Administrative
__Minor
__Significant
[ ] Permit renewal
[ ] General permit
[ ]Conditional major
[X] Title V
[ ] Synthetic minor
[X] Operating
[ ] Construction/operating

COMPLIANCE SUMMARY:

[ ] Source is out of compliance
[X] Compliance certification signed
[ ] Compliance schedule included

APPLICABLE REQUIREMENTS LIST:

[ ] NSR
[ ] PSD
[ ] Netted out of PSD/NSR
[ ] NSPS
[X] NESHAPS
[ ] Not major modification per 401 KAR 51:017, 1(23)(b) or 51:052,1(14)(b)
[X] SIP
[ ] Other

MISCELLANEOUS:

[ ] Acid rain source
[ ] Source subject to 112(r)
[ ] Source applied for federally enforceable emissions cap
[ ] Source provided terms for alternative operating scenarios
[X] Source subject to a MACT standard
[ ] Source requested case-by-case 112(g) or (j) determination
[ ] Application proposes new control technology
[X] Certified by responsible official
[X] Diagrams or drawings included
[ ] Confidential business information (CBI) submitted in application
[ ] Pollution Prevention Measures
[ ] Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

Pollutant	Actual (tpy)	Potential (tpy)
PM/PM_{10}	1050.06	6005.1
SO_2	93.1972	93.1972
NOx	596.88	596.88
CO	602.5	602.5
VOC	2886.05	3922.59
LEAD	0.1468	2.659
HAP >= 10 tpy (by CAS)		
7647-01-0 HCl	353.68	605.24

SOURCE PROCESS DESCRIPTION:

Commonwealth Aluminum, Lewisport, Inc. (CALI) owns and operates an aluminum rolling mill facility. CALI manufactures aluminum coil from purchased aluminum sows, as well as purchased and in-plant generated scrap (including customer returns, both painted and bare scrap). Clean incoming material is generally converted to molten aluminum in one of eight melt furnaces in the South Casthouse, degassed and fluxed to remove entrapped hydrogen and metallic impurities, and cast into ingots. Purchased dirty scrap is received at the scrap metal preparation area, shredded, dried, and delacquered, and transferred to one of the melt furnaces in the North Casthouse. Molten aluminum from the North Casthouse melters is transferred to one of four holding furnaces, fluxed in separate degas/fluxing units, and then cast into ingots. Molten aluminum from the South Casthouse melters is transferred to one of the seven holding furnaces, fluxed in the furnace using graphite lance tubes, and in some cases degassed in separate degas units, prior to being cast into ingots.

Impurities in the aluminum removed by fluxing are skimmed from the surface of the molten metal in the form of aluminum dross which is cooled in rotary coolers in both Casthouses and, if the rotary dross coolers are not operational, on an ingot lined dross cooling pad located in the South Casthouse. The cooled dross is then shipped off-site for recovery of any aluminum which may be contained in the dross load. The recovered aluminum is returned to the plant in over-the-road crucible trucks, or in sow form.

Ingots to be rolled are first transferred to an ingot scalper machining area, where the rough, grainy surface of the ingot, created by the casting process, is removed from both longitudinal rolling surfaces. In some cases, the ingots may also be scalped on both perpendicular longitudinal edges.

The scalped ingots are then transported to one of 12 soaking pits or one of two pusher tunnel furnaces. The soaking pits and tunnel furnaces heat the scalped ingot to a predetermined temperature for a specified length of time in order to homogenize the molecular structure of the ingot. This homogenizing process produces an internal grain structure that facilitates the subsequent rolling operations.

Once the ingots are homogenized, they are transported to the reversing mill. The reversing mill reduces the thickness of the ingot through a series of "back and forth" passes through a set of

work rolls until a continuous slab approximately one inch thick is formed. Once the continuous slab has been produced, it is sheared on both ends to make the ends square and transferred to the 3-stand rolling mill. The three stand mill processes the slab through three consecutive thickness reduction passes, in series, followed by coiling the end pass product into a course gauge coil.

The coarse gauge coil is then further reduced in thickness by one of three cold rolling mills to produce a coil which meets the customer's specifications. A given coil may pass through just the two stand tandem cold mill, or one of the single stand mills, but is usually rolled several times on all three mills at the plant.

Between cold mill passes, the metal is sometimes heated and cooled in an annealing furnace to restore workability lost during cold rolling.

Once the specified gauge has been reached, the coil then proceeds to one of four processing operations in coil finishing:

1. Processed as unpainted coil
2. Processed as slit coil
3. Painted
4. Packed and shipped.

During the slitting operation, coils as wide as 75 inches are cut to widths as narrow as 6 inches. In some cases, an oil coating can be applied electrostatically to both sides of the coil if specified by the customer. The coil may also be routed to an embosser, where a specified pattern is rolled onto the metal surface. The paintline processes coil as a continuous strip through the coater room(s). The leading edge of the coil is welded to the trailing edge of another coil to allow continuous runs without having to re-thread the line. The coil is then passed through a series of cleaning operations to remove oil, dirt, and oxides, and then acid etched to assure good paint adhesion. Once cleaned, the coil passes through two coating rooms which may apply paint to one or both sides of the coil. In some cases, the coil may undergo a second paint application station after the first coating has been cured. The paint is then cured in a six zone curing oven, then cooled with an air and water quench. The coil is then packed and shipped, re-routed back to the South Casthouse for re-melt, shipped off-site for re-melt, or routed back to the coater rooms to receive a second coating of paint.

If a second coating is applied, the paint is cured in a second six zone curing oven before being routed to a re-wind station where it is inspected and wound for packaging and shipping, or routed for re-melt.

EMISSION AND OPERATING CAPS DESCRIPTION:

Due to the Secondary Aluminum MACT, it has been possible for Commonwealth Aluminum to remove some self imposed limits.

OPERATIONAL FLEXIBILITY: